Newsletter for Birdwatchers

Vol. 44 No. 6 Nov. – Dec. 2004

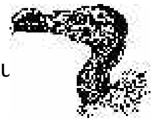
Vol. 44 No. 6 Nov. – Dec. 2004

Editorial Board
S. Theodore Baskaran
Harish R. Bhat
Dr. S.P. Bhatnagar
Dr. A.K. Chakravarthy
Dr. Joseph George
B.S Kulkarni
Fl.Lt. S. Rangaswami (Retd.)
A.N. Yellappa Reddy
S. Sridhar
Dr. Abraham Verghese

Publisher : S. Sridhar

CONTENTS

- **A Note from the Publisher**
  - ☐ The Rise and Fall of Raiganj Bird Sanctu
  - ☐ Vultures' Woes
- **Articles**
  - ☐ Breeding of Lesser Adjutant from an unexplored area of Kosi region of N. Bihar, by Arvind Mishra, Jai Nandan Mandal and Tapan K. Ghosh
  - ☐ Purbasthali: The Unique Wetland Needs Protection, by S.J.Ghosh
  - ☐ Sambhar Lake: A New Breeding Ground of Pied Avocet, *Recurvirostra avosetta* In India, by S.P. Bhatnagar and Satish Kumar Shukla
  - ☐ Birding at Raiganj Bird Sanctuary, North Dinajpur District in West Bengal, by Arunayan Sharma
  - ☐ Vexed Vultures and their Captive Breeding Programme in India, by S. Sridhar and A. K. Chakravarthy
- **Correspondence**
  - ☐ First Record of Indian Grey Hornbill (*Ocyceros birostris*) in the Thar Desert, Jodhpur, India, by Anil Kumar Chhangani
  - ☐ Observation of Red Munia Nesting in Keoladeo National Park, by Ansar Khan
  - ☐ Observations Regarding Kuoo-Kuoo call of Koel, by Narendra Singh
  - ☐ Possible Breeding by the Cuckoo (*Cuculus canorus*) in Chattisgarh, India, by A.M.K. Bharos
  - ☐ Magpie Robin (*Copsychus saularis*) feeding on Maggots & storing food, by A.M.K. Bharos
  - ☐ Legends of Crow and some other Birds, by Rajiv Saxena
  - ☐ An old record of Imperial Sandgrouse (*Pterodes orientalis*) of Gajner, by Rajiv Saxena



A Note from the Publisher

Dear Fellow Birdwatchers,

Seasons greetings and best wishes for a happy and prosperous New Year. This issue is a collection of articles and notes from credentialed birders like Mishra, Bharos, Saxena, Narendra Singh, Chhangani and a host of other seasoned contributors. They exhibit resilience and tangible spirits from a range of avian habitats. In the years gone by, the Newsletter has set examples of new and imaginative ways in which we can serve the twin spheres of birdwatching and bird conservation. They are in essence, the very reflections of an aspirant's ecological quest and have the power to motivate birdwatchers of every description.

The Rise and Fall of Raiganj Bird Sanctuary

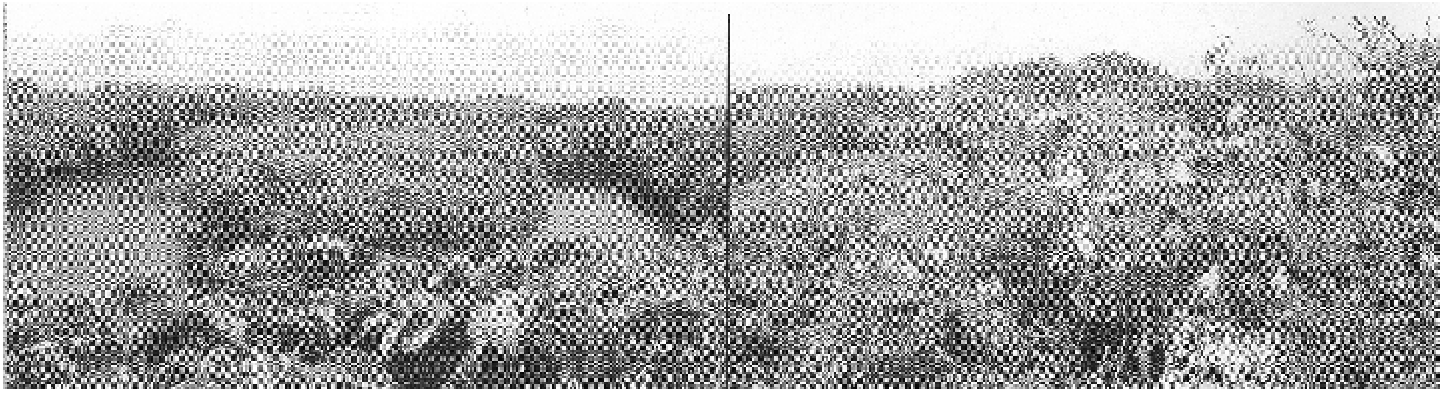
Every heronry has a tale to tell and this is the story of one such heronry in West Bengal. Heronries across India frequently exhibit spectacular growth period followed by a sudden downward slide.

Raiganj bird sanctuary is arguably the best openbill stork sanctuary in India and has a coveted status as one of the top ten heronries in India. Arunayan Sharma has given a vivid account of this heronry, and its success in purely ecological terms is noteworthy, as revealed by the statistics published in this issue. Between 1984 and 1992 the heronry exhibited a steady growth in openbill population, when it reached its pinnacle. Thereafter there was a noticeable biennial fluctuation in the population of openbills. On the other hand the Night heron population had remained more or less constant from 1985 to 1999 with a drastic decline in 1993. This has also been the case with the openbills. Perhaps a drought like situation had affected the heronry in 1993.

It appears the birds were seemingly at ease with their breeding activities, when the heronry was suddenly brought down by a ravaging storm in October 2004. Some dribbles of comfort may be drawn from the fact that a few early breeders had completed their breeding cycle, but none for the openbill storks that had commenced their incubation in August, and their nestlings were yet to fledge, when the storm struck the sanctuary. The scale of havoc caused to the nestlings, brought immense grief to the forest officials and nature lovers, who woke up to hear the news with total disbelief.

Over 3500 nests were found littered alongside the nestlings that were tossed like rag dolls allover the sanctuary by the brutal storm. The bloody mess was soon cleared up by the forest department staff under the supervision of A. K. Das, the District Forest Officer. Presently the heronry awaits a hero's return for the openbills, night herons and a host of other waterfowl. They are expected to put their horror behind and move ahead to rebuild their nests.

It is the lament of the many that unbridled exploitation of mangroves, which were once upon a time growing luxuriantly



Lull before the storm - Raiganj Bird Sanctuary - Photos Arunayan Sharma along the shorelines and lagoons, are responsible for the cyclonic storms to lash ruthlessly and destroy thousands of acres of fertile agricultural lands, railway lines, highways and villages, inundating them for several weeks.

Those familiar with the causes and consequences of storms are of the opinion that the destruction of mangroves for prawn farms, inland fish farms and boat anchorage areas, is the single largest factor that facilitated the storms to cross the coastline unchecked and move freely, causing heavy destruction to life and property.

The birds were mainly feeding on the fish found in the rivulets branching out from the nearby Kulik River. In addition, forest workers were periodically releasing small fish into the ponds located in the depths of the sanctuary. In the tumultuous aftermath of the storm, most of the fish were washed away and the forest department's challenge will be to replenish the fish stock. Until then the heronry might have to continue with its delicate balancing act.

The coming season might exhibit some extenuating aberrations in the nesting schedule of the openbills and night herons. But the birds' attempts to keep going despite an unequal battle against storms, pollution, neglect of habitat and removal of vital mangroves, are indeed awe-inspiring. A clear picture may not emerge till the heronry settles down and Arunayan Sharma and other birders visit the heronry in 2005 to take an inventory of the birds.

Vultures' Woes

You may call this an enigma or a dogma but either way, vultures that are traditionally associated with the dead and the dying, are themselves staring at death's face. Even though the precise nature of the problems faced by the vultures is still not clear, we are publishing an article in this issue, aimed at putting together the nuggets of information available to broadly understand the problem affecting the vultures. The need for sensitive handling of the issue is also highlighted.

In an era, when even common birds like the sparrows are being phased out of their traditional habitats, the kings of the sky have also been divested of their pride and obliged to depend on international support in rehabilitation centers. They are expected to do well in their cages, as they will be kept away from carcasses laced with gout-inducing ingredients and a host of other poisonous elements.

The tragedy has been unfolding silently over several years and presently the vultures are staring at death and possible extinction, as they are compelled to feast on Diclofenac packed carcasses left behind unwittingly by man for their consumption. Perhaps their perennial sorrow and grievance would have gone unnoticed, but for the article by Asad Rahmani in the Newsletter for Birdwatchers (Vol 38, No 5, 1998). He had referred to the notifications issued in the book **Birds to Watch-2: The World List of Threatened Birds**, published by the Birdlife International, in 1995, wherein the white-backed and the long-billed vultures were designated as "Near Threatened".

In a real sense, two earlier articles in the Newsletter for Birdwatchers were the first to report that the vulture crisis was reaching a climax. One such article by Koka Mruthumjaya Rao (1992) had indicated that his vulture survey of two districts in Andhra Pradesh since 1981 had drawn a blank and his interviews with the members of Bandha community; the erstwhile vulture-eaters of the state, had revealed that the vultures had disappeared at least a decade earlier i.e. in the seventies itself. Similarly, another article published in the Newsletter for Birdwatchers (1994) by Ranjit Daniels, Joshi and Madhav Gadgil, had confirmed the disappearance of Long-billed vulture *Gyps indicus* from the Uttara Kannada District of Karnataka, after a six year long meticulous survey (1983 to '88).

For the vultures, the prognosis is pathetic, especially when about twenty or more factors are suspected to be operating independently or collectively. These factors need to be analysed in detail and hazard rankings assigned accordingly. Eight major pathways have been short listed as the causes of decline of vultures, by the Vulture Specialist Group (VSG). After deliberations, Diclofenac, a veterinary drug, has been recognised as the single largest factor responsible for the decline of vultures in India.

As scavengers, vultures are an important component of the food chain that links up other organisms. Any impairment in this network will affect its components like the waves of a Tsunami lashing a distant coast. Examining the problems of the vultures in isolation from the food chain may not yield the vital evidence; in such an event experts will be tracking all the leads to their logical ends without any sign of a witch hunt. The new strategy adopted by the VSG, consists of hoisting trial balloons, with the support of a number of international organizations that have pooled in their resources and expertise to study the problem from a food chain perspective.

Birdlife International has kept an open mind about the Diclofenac poisoning theory and we have also dealt with the theory at length. Now that adequate proof has been provided to establish that the vultures were on the decline in many parts of India way back in the seventies and eighties itself, i.e. much before the release of Diclofenac, the VSG should go slow on their initiatives seeking a total ban on the use of this drug. In the light of evidence against the Diclofenac theory, the Department of Animal Husbandry may find gaping holes in the theory and may return or ignore such an appeal, pending clarifications.

The composite strategy of Californian condor revival programme and schedule and the Griffon vulture captive breeding and reintroduction programme in the Caucuses region of France that began in 1981, in which 69 birds were released in the wild after successful captive breeding operations, will nevertheless provide an opportunity for taking stock of the outcome of captive breeding programme for vultures in India.

At this historical juncture of initiation of captive breeding programme, it is pertinent to recall moving spirits behind successful global conservation endeavours in the past. What are required for the success of the vulture project are role model dedication, vision and indefatigable commitment of the likes of George Adamson, Dian Fossey, Gerald Durrell, Jane Goodall, George B Schaller, Hugo van Lawick and David Attenborough. But for their spirited conservation efforts, the African wildlife would have been rendered much poorer today.

One of the effective strategies is to initiate a massive awareness programme at school level by roping in as many teachers as possible. This could consequently result in gradual increase in public enthusiasm and then with good luck, the hazardous burden can be removed from the backs of

Thanking you,

Yours in bird conservation
S. Sridhar
Publisher, NLBW

Breeding of Lesser Adjutant from an unexplored area of Kosi region of N. Bihar

Arvind Mishra, Jai Nandan Mandal and Tapan K. Ghosh, Mandar Nature Club,
Anand Chikitsalaya Road, Bhagalpur, Bihar - 812 002, India

A team from Mandar Nature Club, led by Arvind Mishra, explored some selected areas of N. Bihar in Kosi region further north to river Ganga. Sighting of 42 active nests of Lesser Adjutant storks (*Leptoptilos javanicus*) suggests the presence of at least 42 pairs of birds during late September and early October 2004. The nesting observed in Madhepura (25° 55' N and 86° 47' E), Katihar (25° 32' N and 87° 34' E), Araria (26° 08' N and 87° 30' E), Purnea (25° 46' N and 87° 28' E) and Bhagalpur (25° 14' N and 86° 58' E) districts has been quite exciting as this is the first ever report on the nesting of Lesser Adjutant. Reports of nesting are not available in literature or journals including Red Data Book or Waterfowl Census reports. Dr. Asad Rahmani, National Coordinator, India mentions in his report of AWC 2002, only 53 Lesser adjutants. This area of N. Bihar is inundated during flood every year and leaves numerous wetlands full of insects, crustaceans, molluscs and fishes. Such wetlands provide sufficient food to these birds.

The references of late 19th century in Red data Book, report this species from Narhar (one pair) in November 1898 (Inglis 1901-1904, Dalgleish 1902); and Lohardaga (Jharkhand) by Ball 1878. There are a few published reports during early 20th century from Tirhut, in June 1902 by Inglis (1901-1904), and at Darbhanga, in September 1903 by Inglis (1901-1904).

The recent reports in Bihar are from Hardhar Taal, Purnea, March 1998 (S. Javed in *litt.* 1999); and all others by Arvind Mishra of Mandar Nature Club, Bhagalpur are from Gogabil, Katihar, 1994, and also a group of 15 at Bagharbil, Katihar, 1998 (A. Mishra in *litt.* 2000); Bhagalpur diara, two in 1995, one at two sites, February 1998, one in 1999, and two in January 2001 (A. Mishra in *litt.* 2000, 2001); and from the state of Jharkhand in Udhuwa Lake Bird Sanctuary, Rajmahal, singles at Pataura in 1994 and 1995, at Berhale in 1995 and 1996, and two at Chand Shahar in 1995 (A. Mishra in *litt.* 2000).

In our recent visits, our team has observed one nest at Ganeshpur Puraini (Dist.- Madhepura) on a large Peepal tree within the densely populated village near the temple in September, 2004 and 4 nests in a Litchi orchard besides the village, on a 70 feet tall Semul tree. These birds started building their nests in August. In most of the nests 2-3 eggs or fledglings were seen. But in one of them, there were five chicks. According to the local people, about 10-15 nests were built previously on the same tree and there are some more trees in the village on which the Lesser Adjutants used to breed, which are currently abandoned. The nesting of these birds has been reported from many other locations near to this village.

Three more nests of Lesser Adjutant were seen on Mango trees near Uda Kishunhanj, 11 km. north to Ganeshpur Puraini. But the sighting of 5 more nests on a huge Peepal tree in the thana campus of Uda Kishunganj was the most exciting discovery. All these nests had chicks and both the parents were seen nurturing them. A few were seen carrying large twigs in their beak to reinforce their nests.

In October 2004, another nesting site of Lesser Adjutant was observed near Narayanpur, Murliganj (Dist.- Madhepura), where five nests were seen on a Banyan tree and three on a Semul tree. During the same visit, seven nests were seen on a Peepal tree by our team near Purnea (25° 46' N and 87° 28' E), and there are also reports of nesting of Lesser Adjutants in the area. Our surveys suggest many more nesting sites of these birds in other parts of N. Bihar bordering W. Bengal, Nepal and Bangladesh.

On our field trip to Kharik, Naugachhia, (Dist– Bhagalpur) north to river Ganga we saw two birds foraging on the ground in the company of hundreds of Asian Openbill Storks, in October 2004.

At Semapur (Dist. Katihar), three nests of Lesser Adjutants were seen on a Peepal tree, beside the railway line in October 2004. During the same field trip nine more nests of Lesser Adjutants were counted on a Peepal tree and two were seen on a Semul tree near Simraha, Forbesganj (Dist. Araria).

This survey has revealed many interesting facts about this stork. There are a good number of old and young Semul trees in this part of N. Bihar which are used in plywood industries. At the same time, this tree species is preferred by the Adjutants for their nesting. During our study, Peepul (*Ficus religiosa*) trees have been noticed to be the most preferred by the Lesser Adjutants for their nesting followed by Semul (*Bombax malabaricum*), Banyan (*Ficus bengalensis*) and Mango (*Mangifera indica*) respectively. Disturbance on Semul trees for its commercial exploitation could be one of the reasons for this change in choice.

Secondly, the previous studies suggest that the breeding season of Lesser Adjutants is between October to March. But, in this part of Bihar, they seem to breed from August to November, as well grown chicks were observed during mid to late September.

Our most interesting finding was the documentation of clutch size i.e. 5 chicks in one nest at Ganeshpur Puraini. However, in all previous studies, the clutch size of Lesser Adjutant is reported as a maximum of four only. This was confirmed in the earlier survey in Assam where in all the 278 nests surveyed contained 2-3 white eggs (Saikia 1995). Similarly, at the Sittang valley colony most clutches contained three eggs (Oates 1878), while those at the Needong Hills comprised 3-4 eggs (Bingham 1878).

'Garud' as the Adjutants are locally called are facing great threat by a local dominant community called 'Banpar' specially around Ganeshpur Puraini, who take away the eggs and chicks of Lesser Adjutant for their flesh and sell them for other purposes. Sometimes they catch the young for zoos and private holders.

Other threats are the ignorance of people of N. Bihar about the status of this bird as a globally endangered bird. They take it very casually when the eggs or chicks are collected from a nest or an adult is shot dead. Once widespread, from India to Indonesia, they have been almost wiped out from many countries now, with isolated populations in India, Cambodia and Indonesia. Its global population is estimated as 5000 (Rose and Scott 1997) only. In Assam itself only 2000 of these birds are supposedly surviving (Choudhury 2000) and rest of the Indian population is mostly confined to W. Bengal and Bihar. Many studies have been conducted in Assam and W. Bengal but Bihar seems to be unexplored. Our exploration and discovery of 42 nests in Kosi region of N. Bihar suggest that this state is a potential breeding ground for Lesser Adjutant.

Purbasthali: The Unique Wetland Needs Protection

S.J.Ghosh, 25/1 R.M.C. Lahiri Street, Po. Serampore, Dt. Hooghly, West Bengal- 712201

The ecological status of many significant wetlands in Kolkata and adjoining districts have severely deteriorated since last few years on account of urbanization, pollution, sedimentation, erosion, intensive fishing, poaching and other unplanned development activities. This has had its major adverse impact on all its floral and faunal forms that this ecosystem supports. The affected life-forms quite naturally include resident and migratory waterfowl. Some of the indicator species, have lost what has hitherto been their favoured and secured strongholds. The number of seasonally common waders that visit these areas is on the wane. Arrival of long distance migrants is becoming increasingly uncertain. Till a few years back, areas like Alipur Zoological Garden, Kolkata, South Eastern railway Centenary Sanctuary, Santragachi, Howrah etc., were considered as major nesting places for thousands of migrants. Today they wear a deserted look. Such is the fate of even far off locations known for their vast stretches of wetlands.

The vast and riverain wetland of Purbasthali is located at village Kasthashali, near Chupi of district Burdwan on Bandel-Katwa route. It is a freshwater lake, which came into existence in the distant past by getting disjuncted form the main stream of river Bhagirathi-Hughli. Today it has lost much of the depth that it had in past. Presently it covers an expanse of 14-16 sq. km. extending more in north-south direction than its east and westward part. At present with a semilunar shape contour, it flows steadily north to south to connect the main stream on both the extremes exposing unyielding bed of weed and marsh vegetation in places. The muddy shallows of Purbasthali support numerous varieties of fish, crustacean, mollusc, algae and other aquatic insects which lure over thousands of waterfowl to winter here, comprises a substantial portion of the migratory flyway of several waterfowl. The lake hosts over 70 spp of birds (including other water dependent birds) during its peak migratory season and at least 18-20 of these are intercontinental migrants. Birds from as far as the Caspian Sea, Lake Baikal, Ural Sea and other remote parts of Russia, Central & Southeast Asia, Ladakh & Himalayas arrive here.

The unmatched and by far one of the largest wetlands in Southern Bengal Districts, Purbasthali, provides ample scope to enthusiast birders to watch its avian diversity. I've spent a whole day in January 2004 to count and monitor its birdlife as part of Asian Waterfowl Census 2004, an annual event launched by BNHS on 2nd and 3rd week of January every year to collate and disseminate information on waterbirds and wetlands.

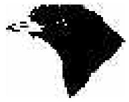
An hour's journey along the middle of the lake by boat (that merely covers less than the half of the entire) and then fifty minutes on foot in the adjoining fields and plantations revealed a total of 5572 birds belonging to 66 species represented in the list. The list includes endangered species like Pallas's fishing eagle along with member of Anatidae viz. White-eyed pochard rarely seen in Southern Bengal districts.

Owing to time constraint it was not possible to visit the far off locations like Rukunpur and the vast swamp of Raghupur-Narayanpur, where congregations of 10 - 12000 birds could be expected.

The lake vegetation chiefly consists of *Vallisneria natans*, a floating leaf-rooted angiosperm belonging to Family Hydrocharitaceae, this occurs in abundance and flourishes all through the lake at varying depths. Common Water Hyacinth *Eichhornia crassipes* has choked substantial portion at the northernmost side whereas species of freshwater Cholorophycean algae is seen sparsely colonizing alongside the lake margins.

Family	Name of the birds	No. of birds*
Podicipedidae	1. Little grebe (*Podiceps ruficollis*)	500
Phalacrocoracidae	2. Little cormorant (*Phalacrocorax niger*)	8
	3. Indian shag (*Phalacrocorax fuscicollis*)	2
Ardeidae	4. Grey heron (*Ardea cinerea*)	1
	5. Purple heron (*Ardea purpurea*)	2
	6. Pond heron (*Ardeola grayii*)	7
	7. Cattle egret (*Bubulcus ibis*)	5
	8. Little egret (*Egretta garzetta*)	3
	9. Smaller egret (*Egretta intermedia*)	6
Ciconiidae	10. Openbill stork (*Anastomus oscitans*)	4
Threskiornithidae	11. White ibis (*Threskiornis aethiopica*)	3
	12. Spoonbill (*Platalea leucorodia*)	5
Anatidae	13. Ruddy shelduck (*Tadorna ferruginea*)	20
	14. Pintail (*Anas acuta*)	160
	15. Gadwall (*Anas strepera*)	2500
	16. Shoveller (*Anas clypeata*)	350
	17. White eyed pochard (*Aythya nyroca*)	4
	18. Cotton teal (*Nettapus coromandelianus*)	750
	19. Lesser whistling teal (*Dendrocygna javanica*)	120
Accipitridae	20. Blackwinged kite (*Elanus caeruleus*)	1
	21. Pariah kite (*Milvus migrans*)	7
	22. Whitebellied sea eagle (*Haliaeetus leucogaster*)	2
	23. Greyheaded fishing eagle (*Ichthyophaga ichthyaetus*)	1
	24. Pallas's fishing eagle (*Haliaeetus leucoryphus*)	1
	25. Shikra (*Accipiter badius*)	1
	26. Marsh harrier (*Circus aeruginosus*)	4
	27. Osprey (*Pandion haliaetus*)	1
Falconidae	28. Hobby (*Falco subbuteo*)	1
	29. Common kestrel (*Falco tinnunculus*)	2
Rallidae	30. Whitebreasted waterhen (*Amaurornis phoenicurus*)	3
	31. Purple moorhen (*Porphyrio porphyrio*)	3
	32. Coot (*Fulica atra*)	1000
Jacanidae	33. Bronze winged jacana (*Metopidius indicus*)	3
Recurvirostridae	34. Blackwinged stilt (*Himantopus himantopus*)	6
	35. Avocet (*Recurvirostra avosetta*)	1
Glareolidae	36. Small Indian pratincole (*Glareola lactea*)	2
Charadriidae	37. Redwattled lapwing (*Vanellus indicus*)	1
	38. Little ringed plover (*Charadrius dubius*)	1
	39. Common sandpiper (*Tringa hypoleucos*)	3
	40. Wood sandpiper (*Tringa glareola*)	2
	41. Fantail snipe (*Gallinago gallinago*)	5
	42. Little stint (*Calidris minuta*)	1
Laridae	43. Indian river tern (*Sterna aurantia*)	6
Strigidae	44. Barn owl (*Tyto alba*)	1

Alcedinidae	45. Pied kingfisher (*Ceryle rudis*)	1
	46. Small blue kingfisher (*Alcedo atthis*)	1
	47. Storkbilled kingfisher (*Pelargopsis capensis*)	1
	48. Whitebreasted kingfisher (Halcyon *smyrnensis*)	3
Upupidae	49. Hoopoe (*Upupa epops*)	1
Capitonidae	50. Bluethroated barbet (*Megalaima asiatica*)	1
Picidae	51. Lesser goldenbacked woodpecker (Dinopium *benghalense*)	1
Hirundinidae	52. Common swallow (*Hirundo rustica*)	7
Oriolidae	53. Golden oriole (*Oriolus oriolus*)	2
Dicruridae	54. Black drongo (*Dicrurus adsimilis*)	3
	55. Whitebellied drongo (*Dicrurus caerulescens*)	4
Sturnidae	56. Brahminy myna (*Sturnus pagodarum*)	3
	57. Pied myna (*Sturnus contra*)	4
	58. Bank myna (*Acridotheres ginginianus*)	5
	59. Jungle myna (*Acridotheres fuscus*)	3
Irenidae	60. Common iora *(Aegithina tiphia)*	1
Muscicapidae	61. Striated babbler (*Turdoides earlei*)	14
	62. Magpie robin (*Copsychus saularis*)	1
Motacillidae	63. White wagtail (*Motacilla alba*)	2
	64. Paddyfield pipit (*Anthus novaeseelandiae*)	2
Nectariniidae	65. Purple sunbird (*Nectarinia asiatica*)	2
	66. Purplerumped sunbird (*Nectarinia zeylonica*)	1



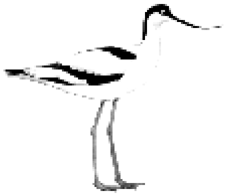
* No. of birds observed in a single count

It is satisfactory that the lake till date survives well with its ecological environment. Though villagers nearby use the lake's water to bathe and for other domestic purposes, no sign of contamination was noticed. Fishing is little and cattle grazing in adjacent fields is almost none, while occasional poaching and mass scale cultivation on both the elevated banks are the recent threats.

The most appalling occurrence is however, poisoning of birds by using chemicals. Birds like Coot and Lesser whistling teal are known to cause large scale damage to paddy nurseries when they gather in large numbers. Peasants generally use more than the recommended dosage of chemical fertilizers while raising seedlings in such nurseries, and the waterfowl that forage in these nurseries during nights are found dead by morning.

The large-scale mortality caused serious concern and some degree of success was achieved in lessening the mortality rate with the help of regional NGOs, who cautioned the villagers and convinced them to abandon this practice. The government of West Bengal has also made proposals to promote eco-tourism in this area because its unique ecosystem. Progressive blocking at the mouth caused by siltation also poses risks for the survival of avifauna that inhabit the lake.

Considering the unique features of this vast wetland, it may be declared an Important Bird Area (IBA) under category A 4. The site is large enough to meet the global criteria and is capable of supporting vast populations of waterfowl on a long term basis. Because of its self-sustaining capability as distinct from other areas nearby, from the point of view of feasibility for bird conservation, an autonomous agency like BNHS should take note of this and its national Coordinator should initiate steps for implementing field programmes in coordination with local organisations and communities in order to ensure that this wonderful refuge is treated as a priceless heritage of Southern West Bengal.



Sambhar Lake: A New Breeding Ground of Pied Avocet, *Recurvirostra avosetta* In India

S.P. BHATNAGAR and **SATISH KUMAR SHUKLA**, Flamingo Research Station, Ajmer-305006
E-mail: spbhatnagar2002@yahoo.co.in

The only known important endangered and threatened wader resident species representative of the Avian Family *Recurvirostridae* in India is the Pied Avocet *Recurvirostra avosetta* Linnaeus.

This species, endemic and rare, occurs in Arid inland Sambhar Lake and its vicinity in Rajasthan as reported by Adam (1873). Ali (1945) was the first to record the breeding of the Avocet in Kutch, and no systematic and detailed studies have been carried out on the breeding biology on the Pied Avocets in the past, in India.

In this paper, an attempt has been made to identify and fill the gaps in our knowledge, and locate new and alternate breeding grounds of Pied Avocets in India.

The present study is the first attempt to gather the baseline information of the wader habitat ecology, general habits, population density, feeding ecology, general behaviour, and breeding biology of the Pied Avocet that is found in a saline inland wetland ecosystem. The Pied Avocet has been recorded breeding in Sambhar Lake for the first time.

Our main objective was to study the following aspects of pied avocet at the Sambhar Lake environs;

1. Survey of nesting colonies, during breeding season.
2. Collection of data on the nesting ecology
3. To study the breeding biology
4. To study the reproductive success of this colonial breeder.

STUDY AREA

Ecology of water habitat - the Sambhar Lake Ecosystem

A. Physical Features

Sambhar lake (26° 52' N –27° 02'N, 74° 54'E- 75° 14'E) is somewhat elliptical in shape with its axis running east- north east to west- southwest. At full capacity (363 *m* Contour) it covers an area of 190 sq km and is this the largest inland saline lake in India.

B. Lake Basin

Most of the lake basin lies in Jaipur and Nagaur districts and only a small portion in Ajmer District. Sambhar Lake is a shallow water lake, reaching only about 3 *m* at its deepest point, with an average depth of 0.61 *cm*. The lake basin is divided into two unequal parts by a 5.16 *km*. long dam between the settlements of Jhapok to the South and Gudda in the North.

C. Sambhar Lake as a Ramsar Site

Sambhar Lake has several attributes that justify its privileged status as a wetland of International Importance also designated as a Ramsar site.

Together with neighboring saline wetlands, Phulera and Deedwana, the sambhar lake is the most important wintering area for Pied Avocets in India outside the Rann of Kutch.

D. Climate

The Lake water remains constantly alkaline, with the *pH* ranging from 7.5 to 9.5.

E. Biological Diversity

The biological diversity of Sambhar lake is quite impressive. It includes a large variety of *phyto* - and *zooplankton*, *benthic* invertebrates, fish and waterfowl; both migratory and resident.

An attempt has been made recently at Flamingo Research Station Ajmer. But the need is for further waterfowl habitat research in India of a high standard, and wider scope which includes Ornithology Eco-Behaviour, Seasonal Population Characteristics, Movement Pattern and Activities and new avenues of Breeding Biology, and Reproductive parameters explored in the Sambhar Lake, the country's largest saline wetland ecosystem. During winter, it attracts tens of thousands of waterfowl , some migrating from as far north as Siberia. For such waterfowl as the Pied Avocet, Sambhar Lake is one of the few suitable habitats that ensure sustenance every year. It is in recognition of the urgency to protect the winter home of these distinguished guests, that Sambhar Lake was listed by Government of India as a wetland of International Importance.

METHODOLOGY

A. Materials

The following materials were used for the field study: A pair of Carl Zeiss prismatic 8' x 30' Binoculars, an altimeter, a wrist watch a record stopwatch, a spring balance, measuring tapes, dividers and a measuring scale, a plastic spoon, a dial caliper, a hygrometer, a maximum / minimum thermometer, an Insect collecting net, mist nets, a dissecting set, a 35 mm. Canon EOS Camera and Standard Telephoto lenses, and a Terrestrial Telescope, an electronic flash unit, Kodak films of various ASAs, and Tape Recorder with Sony Walkman (Professional and Unidirectional Microphone).

B. Survey Methodology

Observations were made mainly during the early mornings and late evenings when Pied Avocets are most active.

Field work consisted of extensive surveys and intensive behavioural and ecological studies. Field Observations were made using Binoculars (7x35) and a Terrestrial Telescope (D=80mm/F=900mm Startracker Refractor) in natural condition in breeding and non-breeding season. Density was estimated by *Line Transect Method* (Emlen, 1971). The population was assessed by directly counting the Pied Avocets in all the transects and was estimated by transects on foot. The Pied Avocets were mist - netted and various measurements were taken.

Behavioural activities were studied by Focal Animal Sampling Method (Altmann, 1974). Direct observations of pied avocets in nature, "Repeated Standard Field Observations," described by Hartley (1948, and 1953) were followed. Regular observations of behaviour and periodic nest search was carried out for breeding seasonality. The breeding pied avocets were identified and located by their songs, calls and courtship behaviour. Calls were recorded with the approximate distance of the display rattle using a Sony Walkman (Professional and Unidirectional Microphone). Food and feeding habits were studied by the micro-histological examination of the droppings. The Pied Avocets were observed individually during each visit and the duration of each activity was measured with a stopwatch. The activities were classified as feeding, chasing, maintenance, wing expansion, walking and feeding, while walking, preening, alertness, bathing, swimming and chasing.

For collecting plankton samples, small cups made of boiling silk number 20 (76 µ pore size) and 25 (64 µ pore size) were used. Known quantity was filtered through these cups to retain Phyto and Zooplanktons. Phytoplankton samples were preserved in Lugol's solution whereas Zooplankton samples preserved in 4 percent Formalin. Size of Plankton was measured with the help of Calibrated Oculomicrometer, fitted within the research microscope camera. Lucida drawings of Plankton were also made.

For counting of Phytoplankton Lackey's Drop Method was used (Lackey, 1938). For numerical analysis of zooplankton Sedgwick Rafter Cell Method (APHA, 1995) was used. Species Diversity was calculated using Shanon Weiner Diversity Index (1963).

Food and feeding habits were studied by direct standard field observations. Frequency of feeding and resting from different strata end locations during different hours and months was recorded. Details regarding the dynamics of the feeding flocks, frequency of occurrence and feeding were recorded. Food and feeding habits were studied by the micro-histological examination of the droppings analysis. Observations of the feeding habits and occurrence of the Pied Avocets at Ana Sagar Lake and Sambhar Lake and the gut contents of six individuals were examined under the microscope.

For the determination of faecal output, "Marker Technique" has been adopted Chromic Oxide (Cr_2O_3) was used for the faecal output determination

"Focal Animal Sampling Method" and the "Scanning Method" were adopted by studying the activity pattern. Regular observations on eco-behaviour and periodic nest search were carried out for studying the breeding seasonality. Nesting habitat preference of the breeding Pied Avocets commonly seen in the study sites were recorded. Preening, bathing, sunning, drying and roosting have been considered under general habits in the present study

Influence of environmental factors such as temperature, wind, cloud cover and rainfall on the Pied Avocet's behaviour and its habitat was studied.

Field work also involved walking about the study areas listing the Pied Avocets seen and keeping track of the extent of habitat-types. Breeding Biology was studied by conducting field survey inside the study areas during the breeding season. Nesting habitat preference of the breeding Pied Avocets in the study sites was recorded.

The Data was subjected to appropriate Statistical Analysis. Data were also analysed using computer packages such as Dbase III, Lotus 123 and Systat were used to map territories and movement patterns of the individuals. Meteorological information was collected from Regional Meteorological Laboratory. Daily Meteorological data was taken from a Stevenson's Screen kept near the study area. Moreover, local weather conditions like cloud cover, wind and drizzle were noted at the start of observation as furnished by the Meteorological Laboratory situated near the site. Same method was applied in both the seasons. Weather data was collected by direct observation and by maintaining a Meteorological Station at Ajmer, Deedwana and Sambhar Lake. Photographs were taken using a 35 mm Canon **EOS** Camera and Telephoto lenses and also telephotography combined with telescope and 70-120 mm Zoom lenses. A wide angled instamatic camera was also utilised.

RESULTS

The results are summed up as follows:

Field Characters of Pied Avocet (*Recurvirostra avosetta* Linnaeus).

The field characters are based on Ali (1979): An elegant black-and white marsh bird with long bare bluish legs. Its chief diagnostic feature is the slender black upcurved bill. These characters were used in field identification during the study.

A large gregarious population of Pied Avocet, *Recurvirostra avosetta* (Linnaeus) was observed in the environs of the receding waters of Sambhar Lake during the second week of April, 2003, and 2004. The population was approximately 2500 and 3000 birds respectively. While surveying the vast 190 sq km of India's largest saline lake a large number of pied avocets' nests were found and numerous hatchlings in various downy and juvenile stages were also seen among the teeming adult population.

The eggs were laid on bare sunbaked ground, on the surface and sometimes on in a shallow depression. They are colonial nesting birds. Nests were recorded fairly close to each other, with colonies of many nests a few yards from one another in shallow water. They laid four eggs. 49 nests were monitored, only four eggs were found in each. This is in conformity with the findings of Ali (1945) and Ali and Ripley (1983).

The eggs are stone coloured, densely blotched with blackish, peg-top shaped. The largest measured 54 x 36.5 mm and the smallest 46 x 34 mm. The incubation period varies from 14 to 15 days. In 12 broods it was 14 days and in the other three it was 15 days.

From the day the clutch is completed the parents incubate by rotation till the eggs hatch. While during the day both the sexes share incubation task almost equally, only the female incubates during the night. Eggs of pied avocets hatch on *"first laid first hatched, basis".*

Morphologically, the fledglings look almost like their parents. The chicks grow rapidly during the initial period of their life. As the chick grows the attendance of parents on the nest decreases. A six weeks old chick can defend itself.

The young Pied Avocets attain juvenile stage at the age of nine weeks. They leap to the air with vigorous flapping of wings while attempting to fly. The juvenile's have brown and buff mottling on the mantle and scapulars.

Male – Adult – 46 cm. Length 17.9 expanse, 29.3; wing 6; tarsus 3.2 ; bill, 3.9 tail from vent, 3.7, reddish-brown.

Habits : The Pied Avocets fed in Salt-Pans of Sambhar lake. They roost on the hard ground and run about actively on squelch ground and wade in shallow water for food. In feeding the upturned bill is wielded, the curved part skimming the semiliquid mud with a back and fore, rotatory and churning motion, washing out the food particles, small crustacea, worms, aquatic insects. Monthly observations show that Pied Avocets preferred less disturbed areas for roosting and foraging. Because of this, the population of Pied Avocets was higher on Salt Pans on the eastern side of the Jhapok-Gudda dam on Sambhar Lake.

Artemia salina was the main food species of Pied Avocet, which was found in Salt Pans. They confined themselves in the salt production area, are rarely observed in the lake proper, whereas, in dry months they inhabit the lake as well. Feeding attempts of Pied Avocets were very high.

Call : A clear, loud, high-pitched *Klooit ….; Kweet, Kweet-Kweet….,* repeated quickly. Vocalisation forms the major mode of courtship and display among Avocets. Calls were significantly used as pre- and postnuptial displays in the month of April. As soon as the drier months commence Pied Avocets become more vocal and call loudly and shrilly throughout the day till the eggs hatch.

Preening: Preening is a common activity of the Pied Avocet and focal pair spent 15.2% of their time in preening.

Nesting season: April

Reproductive success of the whole colony of Pied Avocets in each year was found-out on the basis of daily monitoring. Breeding success of the Pied Avocets were observed and had fairly good success in breeding. Existence of Site Fidelity was found in Pied Avocet by retrapping them. This wader caught together for the first time for ringing were retrapped in later seasons also.

ACKNOWLEDGMENT

We express our sincere gratitude to Dr. S. Kaul, Director, Wetlands Division Government of India, Ministry of Environment and Forests, New Delhi, for constant encouragement.

REFERENCES

Ali, S. (194.5) The Avocet (*Recurvirostra avosetta* Linn.) breeding in India.J. Bombay nat. Hist. Soc. 45: 420-421.

AIL S and Ripley, S.D. (1983). Handbook of Birds of India and Pakistan. Oxford University Press, Bombay.

Altman, J. (1974). Observational Study of Behaviour. Sampling Methods. Behaviour 49:227 -267

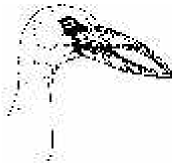
APHA, AWWA, WPCF. (1995). Standard Methods for the examination of Water and Waste Water. American Public Health Association Washington, D. C..

Emlen J.T. (1971). Population Estimation of Birds derived from Transect Counts.

Auk. 88 : 323-342. Hartley, P.H.T. (1948). The Assessment of the Food of Birds. Ibis. 90 : 361-382. Hartley, P. H.T.(1953). An Ecological study of the Feeding Habits of the English Titmice. J. Anim. Ecol. 22 : 261-288.

Lackey, J. B. (1938). The Manipulation and Counting of River Plankton and changes in some organisms to Formalin Preservation. Public Health Rep. 53: 20-80.

Shanon, C.E. and Weiner, W. (1963). The Mathematical Theory of Communication. Urbana Univ. Illinois, U.S.A.



Birding at Raiganj Bird Sanctuary, North Dinajpur District in West Bengal

Arunayan Sharma, N.S. Road, In front of T.O.P. Malda – 732101, West Bengal

The Raiganj Bird Sanctuary is actually a mixed heronry of various species of waterbirds. This heronry mainly holds a healthy breeding population of Asian openbill (*Anastomus oscitans*). Black crowned Night heron (*Nycticorax nycticorax*). Little cormorant (*Phalacrocorax niger*), Little egret (*Egretta garzetta*), Indian pond heron (*Ardeola grayii*) and Great egret (*Casmerodius albus*).

The Raiganj Bird Sanctuary is famous for its Asian openbills (*Anastomus oscitans*) but very little is known about its other avifauna. From 15-17th July, 2000, I was in Raiganj Bird Sanctuary for birding and recorded 71 species. The state of West Bengal has a wide range of natural habitats, mainly wetlands & waterbodies, created by the Kulik river. The Raiganj Bird Sanctuary is considered as one of the top ten heronries in India because of its breeding population of Asian openbills (*Anastomus oscitans*) (Subramanya, 1996). As per the bird census data of West Bengal Forest Department there is an average of 30,000 + Asian Openbills every year and during the breeding period its population suddenly doubles, if we estimate two chicks per nest. (See the Asian openbill population graph). However, it should be noted that the Asian openbill (*Anastomus oscitans*) is already estimated as near-threatened species, in some parts of its distributional range (Collar, et al., 1994). The actual population of this species is not known in our country. In my opinion the Raiganj Bird Sanctuary is the largest Asian openbill colony in India and probably in Asia!

The Raiganj Bird Sanctuary is also known as Kulik Bird Sanctuary from the name of the River Kulik which flows beside the Sanctuary and acts as a boundary in its eastern and southern parts. The river Kulik said to be the Mother of the sanctuary because its water flows through canals inside the sanctuary and fills the ditches and smallpuddles during the monsoon. Due to the water availability the habitat provides an excellent breeding ground for the Asian openbills and many more species and thus the river water is the sustainer of the waterbirds of the sanctuary.

The Raiganj bird Sanctuary was declared as a wildlife sanctuary in the year 1985 (11-04-85) by a special Govt. Notification. But the Asian openbills had occupied the sanctuary as early as the 70s. Actually it is an artificial plantation forest which was started in the 70s as a part of social forestry. Its area is about 1.30 sq.km and is 'U' shaped. These canals are the lifeline of the Sanctuary, as well as the Asian openbills and other water birds.

Rajganj Bird Sanctuary is situated in the North Dinajpur district in West Bengal and about 4 km from the Raiganj town by which it got its name. The major drawback in that the National High 34 passes along its boundary and disturbances caused by the vehicles are affecting the waterbirds. But birds select trees which are outside the sanctuary and inaccessible to vehicles. It is about 425 km to the north of Kolkata, and 75 km from the Malda Railway station.

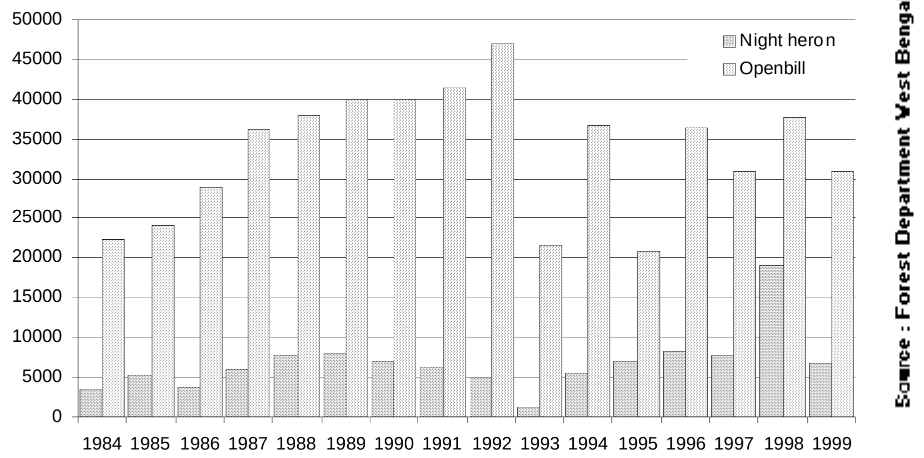
The habitat of this forest is the artificial plantation of trees like Kadam (*Anthocephalus cadamba*), Janul (*Lagerstroemia flosreginae*), Sisso (*Dalbergia sisso*), Eucalyptus sps. July to December is the best time to visit the sanctuary.

Birds of Raiganj Sanctuary sighted during the birding (15-17 July 2000)

Sl. No.	Common Name	Scientific Name
1	Lesser whistling duck	*Dendrocygna Javanica*
2	Fulvous breasted pied woodpecker	*Dendrocopos macei*
3	Lesser Golden-backed woodpecker	*Dinopium benghalense*
4	Blue throated barbet	*Megalaima asiatica*
5	Coppersmith barbet	*Megalaima haemacephala*
6	Common hoopoe	*Upupa epops*
7	Indian roller	*Coracias benghalensis*
8	Common Kingfisher	*Alcedo atthis*
9	Storkbilled kingfisher	*Halcyon capensis*
10	White throated kingfisher	*Halcyon smyrnensis*
11	Pied kingfisher	*Ceryle rudis*
12	Small bee-eater	*Merops orientalis*
13	Pied cuckoo	*Clamator jacobinus*
14	Common hawk cuckoo	*Hierococcyx varius*
15	Asian koel	*Eudynamys scolopacea*
16	Lesser coucal	*Centropus benghalensis*
17	Alexandrine parakeet	*Psittacula eupatria*
18	Rose ringed parakeet	*Psittacula krameri*
19	Asian palm swift	*Cypsiurus balasiensis*
20	Barn owl	*Tyto alba*
21	Spotted owlet	*Athene brama*
22	Rock pigeon	*Columba livia*
23	Oriental turtle dove	*Streptopelia orientalis*
24	Spotted dove	*Streptopelia chinensis*
25	Eurasian collared dove	*Streptopelia decaocto*
26	Yellow footed green pigeon	*Treron phoenicoptera*
27	White breasted waterhen	*Amaurornis phoenicurus*
28	Purple swamphen	*Porphyrio porphyrio*
29	Redwattled lapwing	*Vanellus indicus*
30	Black kite	*Milvus migrans*
31	Whiterumped vulture	*Gyps benghalensis*
32	Crested serpent eagle	*Spilornis cheela*
33	Sikra	*Accipiter badius*
34	Darter	*Anhinga melanogaster*
35	Little cormorant	*Phalacrocorax niger*
36	Indian cormorant	*Phalacrocorax fuscicollis*
37	Little egret	*Egretta garzetta*
38	Great egret	*Casmerodius albus*
39	Intermediate egret	*Mesophoyx intermedia*
40	Cattle egret	*Bubulcus ibis*
41	Indian pond heron	*Ardeola grayii*
42	Black crowned night heron	*Nycticorax nycticorax*
43	Cinnamon bittern	*Ixobrychus cinnamomeus*
44	Asian openbill	*Anastomus oscitans*
45	Rufous tree pie	*Dendrocitta vagabunda*

46	House crow	*Corvus splendens*
47	Large billed crow	*Corvus macrorhynchos*
48	Eurasian golden oriole	*Oriolus oriolus*
49	Black headed oriole	*Oriolus xanthornus*
50	Black drongo	*Dicrurus macrocercus*
51	Bronzed drongo	*Dicrurus aeneus*
52	Asian paradise flycatcher	*Terpsiphone paradisi*
53	Common iora	*Aegithina tiphia*
54	Common wood shrike	*Tephrodornis pondicerianus*
55	Oriental magpie robin	*Copsychus saularis*
56	Indian robin	*Saxicoloides fulicata*
57	Chestnut tailed starling	*Sturnus malabaricum*
58	Brahminy starling	*Sturnus pagodarum*
59	Asian pied starling	*Sturnus contra*
60	Common myna	*Acridotheres tristis*
61	Jungle myna	*Acridotheres fuscus*
62	Redwhiskered bulbul	*Pycnonotus Jocosus*
63	Redvented bulbul	*Pycnonotus cafer*
64	Zitting Cisticola	*Cisticola juncidis*
65	Oriental white eye	*Zosterops palpebrosa*
66	Common tailorbird	*Orthotomus sutorius*
67	Jungle babbler	*Turdoides striatus*
68	Purple rumped sunbird	*Nectarinia zeylonica*
69	Purple sunbird	*Nectarinia asiatica*
70	House sparrow	*Passer domesticus*
71	Black headed munia	*Lonchura malacca*

Statistics of Asian openbills (*Anastomus oscitans*) and Black crowned night heron (*Nycticorax nycticorax*) of Raiganj Bird Sanctuary



Source : Forest Department West Bengal

References

Ali S & Ripley, S.D. (1989) Compact handbook of the birds of India and Pakistan. Oxford University Press.

Collar, N.J, Crosby, M.J. & Stattensfield, A.J. (1994). Birds to watch- The world list of threatened birds. Birdlife of International.

Grimmett *et.al* (1998). Birds of the Indian subcontinent. Oxford University Press.

Grimmett *et.al.* (1999). A pocket guide to the birds of the Indian Subcontinent. Christopher Helm. London.

Kazmierczak.K. & Perlo, V. (2000). A field guide to the birds of India. Om book services. New Delhi.

Sahni, K.C. (1998). The book of Indian trees. BNHS Oxford University Press.

Sharma, A. (2000). Kulik Bird Sanctuary, Environ. Vol: VII. No. 3.

Subramanya, S. (1996). Distribution status and conservation of Indian Heronries. JBNHS Vol. 93, No. 3.

Vexed Vultures and their Captive Breeding Programme in India

S. SRIDHAR and **A. K. CHAKRAVARTHY,** Institute for Natural Resources Conservation, Education Research and Training, No 10, Sirur park B Street, Seshadripuram, Bangalore 560 020

Vultures, deemed as the kings of the sky, have withstood thousands of years of vagaries of Nature, and overcome formidable obstacles that came their way in the past, but the current peril they are facing is by far the most catastrophic, and could well prove to be the dead-end for most of them.

But for the vultures, the stench-filled carcasses, which for them are wholesome food, would have remained unattended in the environment. Acting as nature's scavengers, they gave the habitats everything they could by cleansing the ecosystem and yet, what are they getting in return?

Newsletter's Role

Since 1988, atleast twenty articles and notes have been published on vultures in the Newsletter for Birdwatchers. Koka Mrunthumjaya Rao's article in 1992, followed by that of Ranjit Daniel, Joshi and Madhav Gadgil in 1994, are the ones that had reported the drastic decline in vulture populations. Some birdwatchers have also reported the decline of vultures in their respective states, whilst a few others have noticed an increase in their numbers in their states. C. Satiskumar, has cited some earlier literature that had confirmed the disappearance of vultures in Kerala by the end of seventies, with Long-billed (*G. indicus)* becoming extinct in 1954 itself and White-backed (*G. bengalensis),* having become exceedingly rare as early as 1960 in that state. He has also quoted some references, to establish the fact that the vultures had become extremely rare in 1930s and 40s itself in the state of Kerala. During a four year survey (1990-94) in Kerala, Jafar Palot had observed ten elephant carcasses remaining unattended by vultures. But oddly enough, Sarath saw some 100 vultures (Long-billed 50, White-backed 40 and King vulture (*Sarcogyps calvus*), 10), jostling their shoulders around a dead elephant to retrive chunks of meat and enjoying a sumptuous dinner, in the adjacent Nagarahole National Park, on 17th January 2000.

Other interesting observations include those of Rajeev Chauhan who had seen a flock of 100 vultures getting crushed under the wheels of a slow-running train on the busy Delhi-Howrah route, near Etawah in 1990, as they were heedlessly feasting on the carcass of a buffalo; runover a few minutes earlier on the same track by another train. But strangely enough, ten years later, the vulture population had declined so much that none of the train-kills on this route have been attended to by the vultures. Interestingly, Khalid and his friends had counted up to 100 Griffon vultures and a few white-rumped vultures circling over two dead buffalos in Punjab on 3rd December 2000. According to them the vulture population is improving in the Shivalik area of Punjab. Similarly, G.S. Padate and his friends have reported an abundance of vultures near Baroda; 63 White-backed vultures were sighted on 25th June 2001, near Badoli and around 50 White-backed vultures on 15th September 2001 near Chota-Udepur town. S. K. Sharma has explained the tricky phenomenon of White-backed vultures getting accidentally knocked down by vehicles near Bharathpur in 1990. Ten White-backed vultures suspected to have died after consuming parts of a cattle carcass sprayed with DDT & BHC, near Moti-Virani town, Kutch, was reported by S. N. Varu and J.K. Tiwari in 2000. Himmatsinhji had suspected the indiscriminate use of pesticides and rat poison, behind the vulture declines in 1999. Mysterious death of eleven White-backed Vultures at the Indian Botanical gardens, Sibpur, West Bengal, was reported by Arunayan Sharma in 2001. Lima Rosalind has observed a group of 30 White-backed vultures exhibiting lethargy with their heads drooping, whereas two or three other individuals of the group looked healthy, at Balaram Ambaji Sanctuary in 2000. Bibhab Kumar Talukdar and Ranjan Kumar Das (1997) reported, that vultures are common in Assam.

Despite the publication of two timely, informative and clinching articles in 1992 and 1994, the crisis remained obscure and the situation was left to drift a great deal, until Dr. Rahmani's article appeared in the Newsletter for Birdwatchers in 1998. If we had assumed that Nature's own culling mechanism was at work, or waited for the entire canvas to emerge, or paused until all the causative factors were established, we would have waited too long. As such the vultures are seeking refuge at our doorsteps; it is our primary responsibility to undo the damage done to them.

The Diclofenac theory

The Vulture Specialists Group (VSG) has short-listed eight major pathways as the causes of decline of vultures, They are 1) loss of nesting habitat, 2) Infectious diseases, 3) Use of veterinary drugs, 4) General environmental contamination, 5) Deliberate poisoning of carnivores leading to secondary poisoning of vultures, 6) Low food availability, 7) Exploitation and persecution, and 8) Effects of transportation, infrastructure and recreation. After deliberations in a workshop held during February 2004 at Mumbai, the gout-inducing drug Diclofenac, has been recognized as the single largest factor responsible for the drastic declines in vulture populations in India.

This has prompted the experts to go for the ultimate option of captive breeding of vultures and keeping them on a Diclofenac-free diet, till the danger is removed in the wild. If Diclofenac threat is not real, then there is no need for the VSG to capture and maintain a stock-population of three or four species of vultures.

One line of argument against the Diclofenac theory is that the vultures were already on the decline due to universal factors affecting birds-of-prey in general, to begin with. Their predicament worsened with introduction of drugs for treating high yielding milch cows that were freely brought from Europe to India as part of the 'white' revolution. One such was the introduction of Diclofenac (between 1988 and 1994), a veterinary drug for treatment of cattle. This in turn was held responsible for the onset of gout in vultures. Gout is a protein metabolic disorder, wherein the uric acid is not excreted, but retained in the vulture's body as uric acid crystals, gradually resulting in renal failure.

Another livestock line argument is that Diclofenac may not be solely responsible for the wholesale annihilation of vultures, in a matter of eight to ten years. In our country medical care is a luxury and vast rural populations have little or no access to primary health care. Furthermore, every year thousands of cattle are put on 'distress sale' or starve to death in drought prone states, because they don't get enough fodder. That being the case, it is beyond the means of the cattle-dependent communities to get their ailing cattle administered with generous quantities of a new drug – Diclofenac, to quell certain inflammatory conditions. Perhaps a handful of dairy farms may be treating their cattle with Diclofenac and other medications, but these animals invariably end up in tanneries or disposed off in a hygienic manner and are seldom taken to municipal dump-yards.

A simulation model is presented by Green *et al* (2004) that predicts the necessary prevalence of Diclofenac in livestock carcasses to produce the observed rates of decline in vultures. The assumption being that, it is sufficient for only one out of 250 carcasses to have lethal levels of Diclofenac, to cause the observed rates of declines. Whether that particular animal was treated with Diclofenac 3 or 4 hours before its death*, i.e* before the drug got metabolized (Todd & Skin 1988), and whether that critical factor was integrated or overlooked in these calculations, needs to be established before considering this hypothesis on its face value. Moreover, the revelation that only 12 (<5%) of the 262 livestock carcasses were attended to by vultures in a nationwide survey in 2000 (Prakash *et al* 2003), and that the livestock carcasses were much more plentiful in the earlier decades, come in the way of swift acceptance of this model. The fact that the vultures had the choice of feeding on a variety of Diclofenac-free carcasses, including that of wild animals, ferals, road kills, and victims of epidemics such as reindeer pest, foot & mouth disease, and of natural disaster fatalities such as floods, droughts, earthquakes and cyclones, render the simulation model circumspect. The above attributes can possibly take the wind out of the model that predicts the annihilation of vultures within a short span.

We understand from Prof. K. Narayana, Head, Department of Pharmacology and Toxicology, Veterinary College, UAS, Bangalore, that Diclofenac *per se* may not be implicated in the drastic decline of vultures in India. Although it is in use for the past 10-15 years, its usage is currently on the decline, because of its pronounced side-effects. Available in both injectible and tablet forms, the drug may not be the cause for large-scale death of vultures, as the drug gets excreted hours after administration. Sometimes the implication of a chemical in causing bird mortality may be due to chance; as such drugs or chemicals are freely used as baits or in bait formulations.

Quite a few facts have been arrayed to discount the Diclofenac theory and let us spell them out. Firstly, vultures were already on the decline (in the seventies), *i.e.* much before Diclofenac was introduced (between 1988 and 1994) for veterinary use in India. Secondly, most of the findings are from Pakistan and not from India. There is precious little to substantiate the hypothesis that veterinary drug regimens and prescriptions are identical to India and Pakistan, notwithstanding the differences in farming practice, animal worship, sacrifice and consumption patterns. Above all, vultures embrace death only when they eat the flesh of an animal that was administered with Diclofenac, barely hours before its (animal's) death (Oaks *et al* 2004). Thirdly, researchers like Cunningham *et al* (2003) have indicated the possibility of autolytic changes in Indian vultures found dead with gout, which were expected to mask the original signs of any other lesions that may be present such as vasculities, gliosis, or herpes virus.

Finally, systematic examinations of vulture carcasses were too meager to establish the Diclofenac theory in India (Shultz *et al* 2004). Such a research was impeded by legal regulations and strictures contained in the Wildlife (Protection) Act 1972 (WPA), which makes it mandatory for any research to be permitted by the Chief Wildlife Wardens of the respective states. Perhaps there was a way out of this impasse. The legal restrictions apply only to wildlife and not to livestock. Rather than wait endlessly for the Government permission to fall into their laps, the researchers ought to have collected flesh samples from the livestock carcasses that were being actively feasted upon by the vultures at carcass dump-yards, to demonstrate the presence of this errant drug in requisite quantities to be able to cause the observed rates of decline in vulture population. According to Cunningham *et al* (2003) viruses have been shown to be present in tissues from vulture carcasses collected across India and are found at the highest concentrations in and around lesions in the central nervous system. On these findings alone, the accusation against Diclofenac as the main culprit that is hounding vultures to their graves has to be taken with a pinch of salt.

Debbie Pain, Head of the International Research at RSPB has commented that "Whilst Diclofenac could be the breakthrough we've been waiting for, we can't yet assume that it is responsible for the vulture declines in India. Much investigation needs to be done, and we are working on this with BNHS and IoZ as a matter of urgency." The Birdlife International has also opined that "Whilst the results could explain vulture deaths in the studied Pakistani colonies, many issues require explanation if Diclofenac is responsible for vulture declines in India, where the BNHS, RSBP, and IZL are investigating the phenomenon, funded by U.K. Government's Darwin Initiative"

"Birdlife is very concerned that should the declines in India prove to be caused by an infectious disease and not Diclofenac, it could spread through migratory Griffon Vultures (*Gyps fulvus*) to other vulture populations across the Middle East, Europe and Africa. Nonetheless, the spread is unlikely if Diclofenac is proved to be an important factor in India, Vulture populations can be revived once the drug's use in veterinary medicine is prevented. Until this is shown to be the case and results of tissue sample analysis from dead Indian birds are keenly awaited - Birdlife is keeping an open mind in the matter" (World Birdwatch 25 (3), September 2003).

It may not be out of context to quote from the Editorial by Angell and Jerome P. Kassier in **New England Journal of Medicine,** about scientific findings. "Nearly every clinical research should be seen as preliminary. No matter how important the conclusions, they could be considered tentative until a body of evidence accumulates pointing in the same direction. Any one study should be regarded as tentative, the more so if the results are spectacular or at odds with the evidence accumulated so far".

Quality of Wildlife Justice yet to Improve in India

The WPA's lack of success in promoting wildlife welfare can be attributed to the Indian experience that has repeatedly exposed the gulf between promise and practice. The wildlife laws and rules are not being read and interpreted in both letter and spirit. Whenever permission is sought for examining a vulture's carcass, and if that permission is denied or not forthcoming in time, a crucial opportunity to establish the causes of its death gets lost for ever. At times like this, the wildlife authorities should act promptly and ought not to err on this aspect of caution and responsibility. It is a common complaint that the 'sharp canines and talons' of the wildlife laws are coming in the way of genuine scientific research on one hand, and on the other, the exhaustive wildlife rules remain 'toothless and clawless', when it comes to apprehending and prosecuting poachers and habitual wildlife lawbreakers. Under these circumstances, much of the complaint - that the wildlife laws are not benefiting wildlife and the quality of wildlife justice has not improved in India, is justifiable.

The captive breeding programmes have their own inherent problems; a single catalytic virus, whether operating independently or in combination, can spark the next series of mortality among the vultures shepherded in one enclosure or several enclosures housed in a given location. In order to prevent any communicable disease wiping out the captive birds, the VSG is in the throes of identifying suitable areas for the captive breeding programme. One such centre has already started functioning at Pinjore, Haryana, This centre holds 30 *Gyps* vultures, fifteen each of *G.bengalaensis* and *G.indicus* and one more is all set to begin in January 2005 at a two-hectare plot beside the Buxa Tiger Reserve, in Jalpaguri district of West Bengal. Efforts are underway to capture 60 birds to establish 25 pairs of each of the three species in each breeding centre. In all, six such centers are planned to hold a minimum of 360 birds of each species. Thus a new era of stabilizing both *G.bengalensis* and *G. indicus* vultures is in progress in Haryana and West Bengal. Talks are also underway to establish captive breeding centers in the states of Himachal Pradesh and Gujarat. In all the rehabilitation centers, VSG has to adopt foolproof measures to insulate the vultures and their hatchlings from needless exposure to humans, if the long term plans are for releasing them in the wild.

But before embarking on such captive breeding programmes, we trust that due legal clearances have been obtained from the authorities, including gazette notifications. A legitimate doubt may arise among the bird lovers about the success of the programme, in the absence of a crystal clear memorandum of understanding. Therefore, it is advisable to bring the captive breeding programme under a Special Government Cell, similar to Project Tiger. An officer of the rank of a Central Government Secretary or Inspector General of Forests, has to be designated as the Member Secretary of the project, supported by two or three senior technical officers to coordinate with the experts.

The Special Cell thus created should be mandated to bring about consensus with the states, provide guidance norms, tackle inter-departmental matters and get an appraisal of the ground situation from time to time. The creation of a Special Cell is essential for not only guaranteeing the efficient functioning of the project but also securing a legal bind, so that the parties think nothing of changing their stands and commitments at a later date. In order to ensure smooth passage of the project, a recommendation has been made for the creation of a technical advisory committee (TACVCM) for captive breeding that will comprise national stakeholders and international conservation breeding experts from IUCN, CBSG and RSG, TPF, ZSL, NBPT, WCS, ERWDA, BNHS and technical members from range/state organizations. These initiatives not only demonstrate the VSG's sincerity in meeting the vulture concerns half way through, but also its pragmatic move aimed at reviving the decimated vulture populations.

Need for Publicity Campaigns

It is in this context, captive breeding measures are certainly necessary, but such projects are often hamstrung by woefully inadequate infrastructure, and hurdles that come in the way of their easy performance. Small steps forward are likely to be stalled or checkmated by lack of sustained political will, bureaucratic resistance, ethnic sensibilities and anathema associated with vultures. Therefore, while embarking on projects of this kind, one has to be prepared to cross all hurdles.

It is perhaps necessary to retain the vultures as long as the carcass-contamination threats remain in the wild, and it may be a Herculean task to remove the threats, like Diclofenac by legislation or other means. Under these circumstances a tenuous and crisis prone situation will remain for long and the scientific quest for vulture revival might prove to be the Achilles' heel in the long run. There are instances of greatly admired projects subsequently loosing moral and societal support, because they could not sustain the initial enthusiasm and/or the project initiators wavering in their commitments. For a variety of other reasons too, a lasting solution cannot be found that satisfies both the bird conservation needs and the human interests and in the case of vultures, such a dithering could well spell a farewell to the latter.

For that reason, it is essential to launch a publicity and awareness campaign at least in West Bengal, where the captive breeding programme is all set to begin. It is our good fortune that the first lady of West Bengal, Ms. Tara Gandhi, is herself a great bird lover and has worked alongside Dr. Salim Ali in his field campaigns. The VSG would do well to reap generously on this unforeseen windfall, which has come their way in that state.

The awareness campaigns should highlight the difference that can be made by a change of heart at National, Government and community levels. A good example is the Grizzly Conservation Campaign that changed the public opinion in grizzly's favour. The views of Jeff Turner, an accredited bear photographer were repeatedly broadcast in the media to win over the fence-sitters. In his T.V. appearances Turner said "What most impressed in their (Brown bears) tolerance and their closeness is that they are like us – reflections of our own lives. But our own life comes in the way of appreciating these realities. We can save only something we care and we care only something we understand and appreciate".

Against all these odds, if we can successfully carry through the vulture rehabilitation programme, then we can proudly look to the sky as the first among the Asian countries to establish a landmark project. In order to achieve this laudable objective, for once, all bird lovers should put their differences behind them and redouble efforts to ensure success.

Clearly these are the only avenues to move forward under the circumstances and to makeup for the time and opportunity lost in saving the vultures, badly mauled by the Diclofenac factor and/or other unknown elements. That it is in the logic of this process that we ought to consider carefully, all the research inputs and strive for tangible breakthroughs in a least identifying the real culprits and take remedial measures, the so that the vultures can stand on their own feet and resume their art of living *i.e.* eating the dead.

References

Arunayan Sharma (2001) White-rumped vultures are dying at Indian Botanical Garden. *Newsletter for Birdwatchers* 41:1, 12.

Bibab Kumar Talukdar and Ranjan Kumar Das (1997) Records of Birds of Prey in Nameri Wildlife Sanctuary, Assam. *Newsletter for Birdwatchers.* 37:3. 50

Brij Kishore Gupta (1995) Notes on Raptors death Due to Vehicular Traffic in Agra Dist., Uttar Pradesh. *Newsletter for Birdwatchers* 35:5. 98

Cunningham, A.A., Prakash, V., Pain, D., Ghalsasi, G.R., Wells, G.A.H., Kolte, G.N., Nighot, P., Goudar, M.S., Kshisagar, S. and Rahmani, A. (2003) Indian vultures victims of an infectious disease epidemic? *Animal Conservation* 6: 189-197

Envis Newsletter: Avian Ecology & Inland Wetlands (2004) 9:1

Green, R.E., Ian Newton, I., Shultz, S., Baral, H.S., Cunningham, A.A. Gilbert, M. Pain, D.J., and Prakash, V. (2004) Diclofenac poisoning as a cause of vulture population declines across the Indian subcontinent. *Journal of Applied Ecology* 41: 793-800

Himmatsinhji (1999) Redctn. in Raptors. *NLBirdwatchers* 39:3. 53

Khalid, M.A., Pia Sethi, Mohapatra, K.K., Bhujanga rao. (2001) Vulture sightings in the Shivalik region of Punjab. *Newsletter for Birdwatchers* 41:6, 81

Koka Mrutyunjaya Rao.,(1992) Vultures endangered in Guntur and Prakasam Districts (AP) and Vulture eating Community. *Newsletter for Birdwatchers* 32:7:8, 6-7.

Lima Rosalind (2000) White-backed vultures in the throes of a Malady in the Balaram Ambaji Wildlife Sanctuary in Banaskantha District, Gujarat. *Newsletter for Birdwatchers.* 40:3, 38

Mahendra Singh Lalas ((1999) Documentary on Vultures. *Newsletter for Birdwatchers,* 39:1,11.

Oaks, J.L. Gilbert, M., Virani, M.Z., Watson, R.T., Meteyer, C.U. Rideout, B., Shivaprsad, H.L., Ahmed, S., Chaudhry, M.J.I Arshad, M., Mahmood, S., Ali, A., and Khan, A.A. (2004) Diclofenac residues as a cause of population decline in White-backed vultures in Pakistan. *Nature* 427 : 630-633

Padate, G.S., Saona, S., and Zala, V. (2001) Vultures in abundance. *Newsletter for Birdwatchers* 41: 5 , 70

Prakash., V., Pain, D.J., Cunningham, A.A., Donald, P.F., Prakash, N., Verma A., Gargi, R., Shivakumar, S. and Rahmani, A.R. (2003). Catastrophic collapse of Indian white –backed *Gyps bengalensis* and long-billed *Gyps indicus* vulture populations. *Biological Conservation* 109: 381-390

Prasanta Saikia and Bhattacharjee, P.C., (1990) Indian Long-billed Vulture nesting in Assam. *Newsletter for Birdwatchers.* 30:1 & 2, 9

Rahmani, A. R. (1998) Decline of vultures in India. *Newsletter for Birdwatchers* 38:80-81

Rajeev Chauhan (2001). Vulture sightings in National Chambal sanctuary, Etawah. *Newsletter for Birdwatchers* 41: 4, 51-52.

Ranjit Daniels, R.J., Joshi, N.V., and Madhav Gadgil (1994) Changes in the bird fauna of Uttara Kannada, India. (Extracts) *Newsletter for Birdwatchers* 34:2 26-27

Sarath, C.R., (2000) Vultures of Nagarhole National Park. *Newsletter for Birdwatchers*. 40:2, 26

Sashikumar. C., (2001) Vultures in Kerala. *Newsletter for Birdwatchers* 41: 1, 1-3.

Satish Kumar Sharma (1990). Road Accidents to Vultures and the role of Parapet walls. *Newsletter for Birdwatchers.* 30:5 & 6, 10-11

Shantilal Varu (2000) Most Species of Vultures of Kachchh in one place. . *Newsletter for Birdwatchers* . 40:2, 27

Shultz, S. Baral, H.S., Charman, S., Cunningham. A.A., Das, d., Ghalsasi, G.R., Goudar, M.S. Green R.E., Jones, A., Nighot, P., Pain, D.J., and Prakash, V. (2004) Diclofenac poisoning is wide spread in declining vulture populations across the Indian subcontinent. *Proc. Roy. Soc. Lond. B (Suppl.) doi 10.1098 rsbl 2004.0223.*

Todd, P.A. and Sorkin, E.M., (1988) Diclofenac sodium. A reappraisal of its pharmacodynamic and pharmacokinetic properties and therapeutic efficacy. *Drugs* 35:244-285

Varu, S.N., and Tiwari, J.K., (2000) Vulture Watch in Kutch. *Newsletter for Birdwatchers* 40:3, 41.

World Birdwatch (2003) Vulture death mystery explained. 25:3, 9

World Birdwatch (2004) Record vulture count in Cambodia includes Asia's rarest. 26:3, 3

CORRESPONDENCE

FIRST RECORD OF INDIAN GREY HORNBILL (Ocyceros birostris) IN THE THAR DESERT, JODHPUR, INDIA.

ANIL KUMAR CHHANGANI, Department of Zoology, J.N.V. University, Jodhpur-342001, Rajasthan House No. 24, Hardave Colony, New Chandpole Road, Siwanchi Gate, Jodhpur-342001 Email: chhanganiak@yahoo.com

The city of Jodhpur (26º 19" N and 73º 8" E) is situated in the eastern fringe of the great Indian desert, also known as Thar desert. About 158 species of birds belonging to 44 families were recorded (Chhangani, 2002) during the seven year long-term demographic and eco-behavioural comparative study on Hanuman langurs (*Semnopithecus entellus*) at Kumbhalgarh Wildlife Sanctuary and Jodhpur. The habitat in and around Jodhpur city is mainly open scrub forest with patches of crop fields, farms, orchards and wetlands. The climate of this area is typical hot desert type. During summer the temperature ranges between 20º C and 45º C and may rise up to 49º C, the minimum temperature recorded during the study was 3º C. Humidity values vary between 27% and 66%. The annual average rainfall is 300 mm distributed over 20 rainy days. This wide range of climatic conditions has different types of microhabitats, which support a variety of aquatic and terrestrial birds. Vegetation of the area is typical of desert scrub forest type represented by *Acacia senegal, Euphorbia caducifolia, Ziziphus nummularia, Grewia tenesc, Salvadora persica, Capparis separaia, Anogeissus pendula, Maytenus emarginatus* and *Commiphora wightii*. But, these entire native flora are facing threat of fast spreading dense *Prosopis juliflora* on the banks of water reservoirs and in plains. Some good grassland and wetland patches were also present to support large number of migratory and aquatic avifauna. The main fauna of the area includes, Hyena (*Hyaena hyaena*), Indian wolf (*Canis lupus*), Jackal (*Canis aureas*), Hanuman langurs (*Semnopithecus entellus*), Porcupine (*Hystrix indica indica*), Blue bull (*Boselaphus tragocamelus*) and Jungle cat (*Felis chaus*) etc.

During the study I have seen several birds at both the habitats in the KWS in the Aravalli hills and in Jodhpur and found about 70% similarity in the avian fauna of both habitats.

On February 22, 2002 at 5.50 pm at Mandore gardens, I saw two birds of about 50-60 cm. On account of poor light and big tree canopy, I couldn't confirm the identification. I thought they were probably cuckoo shrikes or mynas or pied cuckoos. I had seen these birds earlier on the *Ficus benghalensis* tree near the nursery. Next day, early in the morning at 6.30 am, I visited the same place and after searching for about 45-50 minutes. I could see one of them on *a Tamarindus indica* tree and after 10 minutes I saw another. With good sunlight, I could identify these birds as the Indian grey hornbills (*Ocyceros birostris*). I had seen this bird at KWS several times during my field work on langurs and therefore I could readily identify the bird as the grey hornbill.

This is the first time the Indian grey hornbill is recorded from Jodhpur, in the Thar Desert. Therefore, it is worth including in the checklists prepared scientifically so far in this region. (Barnes, 1886; Whistler, 1938; Ali, 1975; Ali and Ripley, 1987; Agaromoorthy and Mohnot, 1989; Bohra and Goyal, 1992; Grewal, 1995; Rahmani, 1996 & 1997; Rana et.al. 1996; Kazmierczak, 2000; Chhangani, 2002 a & b).

References

Agoramoorthy, G. and Mohnot, S.M. (1989). Checklist of birds around Jodhpur. Tiger Paper. 1: 11 – 13.

Ali, S. (1975). On some birds of Indian deserts. Pp. 423-431 in R.K. Gupta and I. Prakash, eds. Environmental Analysis of the Thar Desert. English Book Depot, Dehra Dun.

Barnes, H.E. (1886). Birds nesting in Rajputana. J.BNHS1: 38-62.

Bohra, H.C. and Goyal, S.P. (1992). Checklist of the birds of Machia Safari Desert Park, Jodhpur (Rajasthan). Pavo 30(1): 87 – 97.

Chhangani, A.K. (2002a). Birds of different sub-habitats in and around Jodhpur, Rajasthan, India. Cheetal Vol. 41: 3 & 4 Pp. 37-42.

Chhangani, A.K.: (2002b). Avifauna in and around Jodhpur, Rajasthan, India. Newsletter for birdwatchers, vol. 42: No. 2, Pp: 24-26.

Grewal, B. (1995). Birds of the Indian Subcontt. ODYSSEY, Hong Kong.

Kazmierczak, K. (2000). A Field Guide To The Birds of India, Sri Lanka, Pakistan, Nepal, Bhutan, Bangladesh & the Maldives, OBS, New Delhi.

Rahmani, A.R. (1996). Changing avifauna of Thar desert. Pp. 305-324. Faunal Diversity in Thar Desert: Gaps in research (by Ghosh, A.K.; Baqri, Q.H. and Prakash, I. eds). Scient. Pub., Jodhpur, India.

Rahmani, A.R. (1997). The effect of Indira Gandhi Nahar Project on the avifauna of the Thar Desert. Journal of Bombay Natural History Society, 94(2): 233–266.

Rana, B.D.; Jain, A.P. and Tripathi, R.S. (1996). Avian diversity in the Thar desert. Pp. 325-331. Faunal Diversity in Thar Desert: Gaps in research (by Ghosh, A.K.; Baqri, Q.H. and Prakash, I. eds). Scientific Publisher, Jodhpur, India.

Whistler, H. 1938. The ornithological survey of Jodhpur State. Journal Bombay Natural History Society, 40: 213-235.

C C C

OBSERVATION OF RED MUNIA NESTING IN KEOLADEO NATIONAL PARK.

ANSAR KHAN, S/o. Bholu Khan, Keoladeo National Park, Bharatpur.

While I was birdwatching in the Keoladeo National Park on 9th Oct. 2001, I came across a Red Munia taking grass in its beak; a clear indication of nesting activity. The red Munia exhibits sexual dimorphism; the male having contrasting red colour with white spots on wings and adjacent regions. The female is dull brown in colour with beak and rump being red in colour. The belly shows off-white colour. The male was making several flights to the nest which was being built in thick *Vetiver zizonides,* one foot above the ground level. The nest was neatly knit, using soft, slender grass and inflorescence of some grass and the egg chamber was lined with downy bird feathers.

The construction was completed on 12th October and the task of giving finishing touches and lining of the nest was performed by the female. After its successful endeavor of building the nest, the male was seen displaying its feathers as a part of its courtship behaviour. The female laid its first egg on 14th October, which was followed by six eggs in a row, with the frequency of one egg per day. The last egg was laid on 19th October. The female incubated the eggs for nine days. The first hatching took place on 28th October. Both the parents contributed to the feeding process. The chicks opened their eyes after three days of hatching.

After a span of five days, the chicks wore nascent and delicate feathers. On 10th of November, the chicks fledged successfully and the parents were seen feeding them outside the nest.

C C C

OBSERVATIONS REGARDING KUOO-KUOO CALL OF KOEL.

NARENDRA SINGH, B-78, Balaji Marg, Near Hanuman Vatika, Hanuman Nagar, Jaipur - 302021

The musical *Kuoo-Kuoo* call of Koel has always fascinated me since my school days, as it reminded me that soon the examinations will be over and there will be summer vacations. This call is not heard during winter season. For the last few years I have noted down the date and time of hearing this call for the first time in a given year. The observations taken during my various postings in Rajasthan are tabulated below:

Place	Date	Time	Place	Date	Time
Sumerpur	15th Mar. 79	5.30 p.m.	Jaipur	22nd Mar. 94	9.00 a.m.
Reodar	21st Feb. 80	1.00 p.m.	Jodhpur	19th Mar. 95	8.00 a.m.
Sumerpur	7th Mar. 81	8.30 p.m.	Bikaner	28th Feb. 96	5.10 p.m.
Udaipur	20th Mar. 82	9.00 a.m.	Jaipur	2nd Mar. 98	8.00 a.m.
Udaipur	17th Mar. 83	5.15 p.m.	Jaipur	18th Feb. 99	7.00 a.m.
Udaipur	11th Mar. 84	Morning	Jaipur	15th Mar. 01	7.20 a.m.
Udaipur	11th Mar. 85	7.00 a.m.	Jaipur	13th Mar. 02	4.43 p.m.
Banswara	28th Feb. 91	6.30 p.m.	Jaipur	22nd Mar. 03	6.15 a.m.
Banswara	5th Mar. 93	6.15 a.m.			

The above table shows that the *Kuoo-Kuoo* call of Koel was first heard in Rajasthan, as early as 18th February in the year 1999

Reference

Ali, S. 1996. The Book of Indian Birds BNHS, Oxford University Press.

C C C

POSSIBLE BREEDING BY THE CUCKOO (Cuculus canorus) IN CHATTISGARH, India.

A.M.K. BHAROS, B-101, Gayatrinagar, PO, Shankarnagar, Raipur C.G., 492007.

The Cuckoo (*Cuculus canorus*) is fairly well distributed in Chattisgarh region, as it has been sighted and recorded by me at several places. The matter regarding its possible breeding in the region lingered in my mind since long, but it could be authenticated only recently.

On 20th August 2000, during bird watch in the north of Raipur (Chhattisgarh) in an undulating terrain, near village Nagargaon, a fledgling was sighted perched on the ground and picking maggots from cattle dung. As our vehicle neared the bird, it flew about 30 meters away and settled. Later it flew another 50 meters, settled on the ground and remained frozen for quite some time offering ample opportunity to us to identify it. As per the plumage described in the Handbook of Birds of India & Pakistan (*S. Ali & D. Ripley Ed – 1989, Vol.-3, P-231*) the fledglings, invariably have presence of a conspicuous white nuchal spot. Based on this clue the fledgling was identified as Cuckoo (*Cuculus canorus*).

Sighting of a fledgling suggests possible breeding of the species in any suitable locality nearby. The foster species viz., pipits, shrikes, and babblers breed in this region and cope up with the requirements of the parasitic species such as the cuckoos. The nearest authenticated location of breeding of this species is Kamptee (Nagpur, Maharashtra) which is at a distance of 300 km. from Raipur, with several suitable breeding places in between. This fledgling might have hatched anywhere nearby and had locally migrated to the place where it was sighted. Another fledgling was sighted recently on 12 September 2004 at village Badgaon 30 Km east of Raipur. It was seen perched on a rice field bund and flew after a while to an *Accacia arabica* tree about 50 mts away. This observation, suggests that this species possibly breeds in Chhattisgarh region as well.

C C C

MAGPIE ROBIN *(Copsychus saularis)* FEEDING ON MAGGOTS & STORING FOOD.

A.M.K. BHAROS, B-101, Gayatrinagar, PO, Shankarnagar, Raipur C.G., 492007.

A large variety of insects eg. Ants, moths, grasshoppers, caterpillars, snails, earthworm, centipedes and smaller lizards, are included in the dietary of the magpie robin (*Copsychus saularis*).

However on 8th June 2000, around 10.00 hrs, in our residential compound, Raipur, Madhya Pradesh now Chattisgarh, a female bird arrived with a green coloured wet lump and dropped it on the floor. Soon it started feeding, but with a little hesitation and reluctance. The food material as well as, the feeding behavior, aroused anxiety and after the bird had left, the material was examined. It was found containing eight to ten dusty coloured live maggots (photographs taken). Later both male & female returned and devoured the remaining maggots. This lump was possibly collected by them, from any nearby drain.

The pair was nesting in the nest box, built in our garden and even before the eggs were laid, both the birds were observed bringing caterpillars of varied lengths, centipedes and variety of other insects including, winged insects and storing them in the nest house, which continued for quite some time, but these maggots were eaten at the spot and not taken to the nest. The storage of food material was verified by physically probing with hand inside the nest box, picking and taking out the insects and then placing them back inside the nest box, most of the insects remained unidentified. This behavior of food material storage was observed in the months of May / June 1999 and 2000.

The maggots do not appear to have been recorded, in the dietary of the species, as the Hand-Book (*S. Ali & S.D. Ripley, Ed. 1983*) suggests and is thus possibly an addition to its diet, so also is unusual, their behavior of storing the food material, before actual laying and hatching of eggs.

C C C

LEGENDS OF CROW AND SOME OTHER BIRDS.

RAJIV SAXENA, MIG – 853, Darpan Colony, Gwalior – 474011 (M.P.)

Crow : Gadgil (2001) writes "crows pervade beliefs of Indian folks. Its guttural call, especially when sitting on a banana plant, heralds the arrival of a guest for meal. Its acceptance of proffered food accompanying ceremonies of funeral or on death anniversaries signifies the contentment of the departed soul. A wicked person who enjoys hurting another is compared to a crow looking for sores on the neck of an ox. That such an apparently sagacious creature is fooled by the Koel is celebrated by poets in all India languages."

List of characters to whom the crow is compared is endless. Mark Twain, an American who visited India in 19th century was totally taken in by what he called the Bird of Birds, the Indian crow and observed, "I came to know him well by and by, and be infatuated with him. I suppose he is the hardest lot that wears feathers. Yes, and the cheer fullest, and best satisfied with him. He never arrived at what he is by any careless process or any sudden one; he is work of art and 'art is long'. He is the product of immemorial ages and of deep calculation; one can't make a bird like that in a day. He has been incarnated more times than Shiva; and he has kept a sample of each incarnation, and fused it into his constitution. In the course of his evolutionary promotion, his sublime march towards ultimate perfection, he has been a gambler, a low comedian, a dissolute priest, a fussy woman, a black guard a scoffer, a liar, a thief, a spy, an informer, a trading politician, a swindler, a professional hypocrite, a patriot for cash, a reformer, a lecturer, a conspirator, a rebel, a royalist, a democrat, a practitioner and propagator of irreverence, a meddler, an intruder, a busybody, an infidel and a wallower in sin for the mere love of it …….."

No bird this side of paradise has had this much said about it before or after (Kamath, 1976).

Dove : The credit of making the dove the symbol of peace goes to the Romans. According to a legend, once the god of war Mars decided to go on a campaign, but when he picked up his helmet he saw a dove's nest in it. In response to the insistent pleadings of Aphrodite not to kill the fledglings, Mars decided to postpone the campaign since he could not possibly go to war without his helmet. In this way the dove averted bloodshed and came to symbolize peace.

Goose : The Ancient Romans were quite convinced that the geese kept in the Temple of Juno (their patron goddess) did save Rome by making a terrific glamour when barbarian raiders came close to the city. The guards who had not heard the barbarians' approach, were alerted by the geese, raised the alarm and the Romans repulsed the enemy from the walls of Rome (Dmitriyer, 1989).

It has now been proved that geese do make good guards and rise an outcry when they see a stranger or hear suspicious sounds. Most probably the legend that the geese saved Rome is true.

Eagle and Stork : Marco Polo visited places between present Machilipatnam and Golconda around 1298 and spoke of a valley of diamonds. Golconda has been famous for its diamonds for a long time. Marco polo says "near the summit (of some hill) there are deep valleys, full of caverns and surrounded by precipices, amongst which the diamonds are found; and here many eagles and storks, attracted by the snakes on which they feed, are accustomed to make their nests. The persons who are in quest of the diamonds take their stand near the mouths of the caverns, and from then cast down several pieces of flesh, which the eagles and storks pursue into the valley, and carry off with them to the tops of the rocks. Thither the men immediately ascend, drive the birds away, and recovering the pieces of meat, frequently find diamonds sticking to them. should the eagles have had time to devour the flesh, they watch the place of their roosting at night, and in the morning find the stones amongst the dung and filth that drop from them" (Anon, 1983).

This mode of obtaining precious stones from an inaccessible valley is identical with the story in one of the adventures of Sindbad the Sailor in the Arabian Nights.

References

Anon (1983). The travels of Marco Polo. Dent. London.

Dmitriyev, Y. (1989). Animals on a Pedestal. Raduga Pub., Moscow.

Gadgil, M (2001). Project Lifescape – Crows, Resonance. 6(2). 74-82. Indian Academy of Science, Bangalore.

Kamath, M.V. (1976). The United States & India. 1776 – 1976. The Embassy of India, Washington D.C., U.S.A.

C C C

AN OLD RECORD OF IMPERIAL SANDGROUSE (Pterodes orientalis) OF GAJNER.

RAJIV SAXENA, MIG – 853, Darpan Colony, Gwalior – 474011 (M.P.)

In the middle of 1995 Dr. R.M. Little and Prof. T.M. Crowe of the University of Cape Town (South Africa) had asked to send information on recent demography, ecological role or value as sustainable natural resources of Pterocles species. I had contributed some information on Imperial Sandgrouse. Since then I have not heard anything about the outcome of their study.

Out of 14 Pterocles species 6 are endemic to Africa, 1 to India, 1 to Madagascar while 6 are shared between North Africa and Asia.

Rahmani (1997) found Imperial Sandgrouse to be a common winter migrant; a few thousands still come to Gajner every morning to drink water, e.g.. on 16/01/94, 3-4 thousand were seen in Gajner. Always found in large numbers from 2-3 hundred to a few thousands. Extensively hunted, hence declining all over its range".

Conditions for this bird do not seem to have changed for most part of the last century. The party of the Maharaja of Bikaner shot 4781 Imperial grouse on 02/02/1929 and 5709 on 03/02/1929 at Gajner about 35 km from Bikaner, Rajasthan (Singh, 1969). We know that 4000 plus waterfowl were shot on three occasions in Bharatpur in 1914, 1916 and 1938 but they included several species. Shooting of Imperial sandgrouse at Gajner is perhaps the highest number of birds of single a species killed in one day.

Reference

Rahmani, A.R. (1997). The effect of Indira Gandhi Nahar Project on the avifauna of the Thar desert. JBNHS 94 : 233-266.

Singh, K. (1969). Hints on Tiger shooting, Jaico, Bombay.

Address for Correspondence :
Newsletter for Birdwatchers
No 10, Sirur Park B Street, Seshadripuram,
Bangalore 560 020, India. Tel. 080 2336 4142, 2336 4682
E-mail : <navbarat@blr.vsnl.net.in>

Printed and Published bi-monthly by S. Sridhar at Navbharath Enterprises, Seshadripuram, Bangalore - 560 020, India.
For Private Circulation Only.

Cover: **Large Grey Babbler** (*Turdoides malcolmi)* is a vivacious greyish brown bird, with imposing bright yellow eyes. It keeps in parties of 5 to 12 birds that rove about open scrub jungles, bordering cultivation. They descend as a troop of screaming sisters, uttering monotonous plaintive *kay-Kay-kay* calls. Though not so melodic in rendition, its whining is nonetheless pleasing to the ears.

Photo S. Shreyas